

Work Order ID 135952

135952

Page 1

Tuesday, August 25, 2015 1:06:29 PM

Item ID: D4287-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Uhmw U-Channel
 Start Date: 8/25/2015 Start Qty: 48.00 ***48*** Cust Item ID:
 Required Date: 8/25/2015 Req'd Qty: 48.00 ***48*** Customer:
 Reference:

Approvals: Process Plan: MLS Date: AUG 25 2015 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D4287	A

100 0.00 ***100*** CZ SEP 02 2015 48

Purchasing Memo 0.00
 Purchasing Issue P/O: 29656
 Material: UHMW (white)
 Supplier P#: McMaster-Carr 9928K53
 Material release note required

110 Receive & Inspect for Damage & Mat'l Certs 0.00 ***110*** SEP 04 2015 48

Packaging Memo 0.00
 Packaging

120 QC6- Inspect dimensions to drawing 0.00 ***120***

QC Memo 0.00 (48) SEP 08 2015

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Work Order ID 135952

Tuesday, August 25, 2015 1:06:29 PM

135952

Page 2

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Required Date: 8/25/2015 Req'd Qty: 48.00 ***48*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location. S/479A	0.00							
130									
Packaging	Memo	0.00							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

SEP 08 2015

MLJ **SEP 08 2015**

20150908

SD

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

Picklist Print

Tuesday, August 25, 2015 1:06:32 PM

Page 1

Work Order ID: 135952

135952

Parent Item: D4287-1

D4287-1

Parent Item Name: Uhmw U-Channel

Start Date: 8/25/2015

Required Date: 8/25/2015

Start Qty: 48.00

Required Qty: 48.00

Comments: IPP Rev:A 10.11.15 new issue DD Verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
9928K53		Purchased	No			110	f	0.0000	1	48			
9928K53										**			
UHMW U-Channel													

SEP 04 2015

DAS
06
9-09

DQA: _____ Date: _____



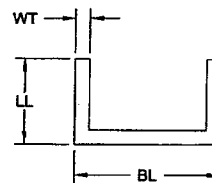
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

SPECIFICATION CONTROL DRAWING



D4287-X UHMW U-CHANNEL

DART PART NUMBER	POSSIBLE SUPPLIER	SUPPLIER PART NUMBER	MATERIAL	PURCHASED LENGTH	BASE LENGTH (BL)	LEG LENGTH (LL)	WALL THICKNESS (WT)	WEIGHT (lbs)
D4287-1	McMASTER-CARR	9928K53	UHMW (WHITE)	96.0	1.05	0.75	0.250	2.11
D4287-3	McMASTER-CARR	8672K31	UHMW (WHITE)	96.0	1.25	0.75	0.125	1.29

NOTES:

- 1) MATERIAL: PURCHASE PER TABLE
OR
UHMW BLACK TIVAR 1000 VIRGIN MATERIAL
REF. DART SPEC. MUHMW
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: NONE
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: PER TABLE

RETURN COPY
 RETURN TO
 ENGINEERING
 CONTROLLED COPY
 SUBJECT TO AMENDMENT
 NOTICE
 ORDER

135952 M.L.J
 15-08-25

RELEASED
 2010-11-03
 JWP

A	NEW ISSUE	MB	10.10.26
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.10.26		

DART AEROSPACE LTD
 HAWKESBURY, ONTARIO, CANADA
 DRAWING NO. **DSC-D4287**
 TITLE **UHMW U-CHANNEL**
 REV. A
 SHEET 1 OF 1
 SCALE
 NTS

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200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO29656

Order Placed By
Chantal Lavoie

McMaster-Carr Number
8154063-03

Page 1 of 1
09/02/2015

Line	Product	Ordered	Shipped
1	91525A120 Type 316 Stainless Steel Flat Washer, Oversized, 1/4" Screw Size, 0.281" ID, 1.000" OD, Packs of 25	2 Packs	2 ✓
2	92311A599 18-8 Stainless Steel Cup Point Set Screw, 5/16"-24 Thread, 5/8" Long, Packs of 50	5 Packs	5 ✓
3	95606A170 Nylon Flat Washer, 7/16" Screw Size, 0.500" ID, 0.688" OD, Off-White, Packs of 100	1 Pack	1 ✓
6	4330A13 Diamond Precision Needle File Set, 6-Piece, Coarse Finish, 80/100 Grit	1 Set	1 ✓
7	6191K17 4L-Section V-Belt, Trade Size 4L250, 25" Outer Circle	3 Each	3 ✓
8	2418A33 Tube Bender for Soft Metals, for 1/4" OD Tubing, 9/16" Bend Radius	1 Each	1 ✓
9	7309T1 Mildew-Resistant Sponge, 3-1/2" X 6" X 1", Yellow, Packs of 6	6 Packs	6 ✓
10	2563A13 Screw Extractor, #3, for 5/16"-7/16" (8-12 mm) Screw, Bolt, & Stud	5 Each	5 ✓
11	52735A23 Bit Adapter, Power, 1/4" Hex Male, 1/4" Square Male, 2" Length	5 Each	5 ✓
12	52735A45 Bit Adapter, Power, 1/4" Hex Male, 3/8" Square Male, 2" Length	5 Each	5 ✓
13	2660K14 Premium Brass Solenoid Valve, Buna-N Diaphragm, NC, 3/8 NPT Female, 24 VDC	2 Each	2 ✓

15/9/15

Shipped separately from our Chicago warehouse on 09/02

5	1182N114 Square-Profile O-Ring, High-Temperature Silicone, Dash Number 114	1 Pack	1 ✓
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Certificate of compliance

This is to certify that the above items were supplied in accordance with the description and as illustrated in the catalog. Your order is subject only to our terms and conditions, available at www.mcmaster.com or from our Sales Department.

Sarah Weinberg
Sarah Weinberg
Compliance Manager

200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO29656

Order Placed By
Chantal Lavoie

McMaster-Carr Number
8154063-02

Page 1 of 1

09/02/2015

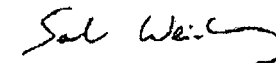
Line	Product	Ordered	Shipped
4	9928K53 Impact-Resistant UHMW Polyethylene U-Channel, 1" Base X 3/4" Legs, 1/4" Thick, 8' Long	48 Feet	48

Shipped separately from our Chicago warehouse on 09/02

5	1182N114 Square-Profile O-Ring, High-Temperature Silicone, Dash Number 114	1 Pack	1
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Sarah Weinberg
Compliance Manager